

PRELIMINARY AMENDMENT

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. - 11. (canceled).

12 (new): Very high mechanical strength steel, characterised in that the chemical composition thereof comprises, in % by weight:

0.060% ≤	C ≤ 0.250%
0.400% ≤	Mn ≤ 0.950%
	Si ≤ 0.300%
	Cr ≤ 0.300%
0.100% ≤	Mo ≤ 0.500%
0.020% ≤	Al ≤ 0.100%
	P ≤ 0.100%
	B ≤ 0.010%
	Ti ≤ 0.050%

the balance being iron and impurities resulting from the production operation, the microstructure thereof being constituted by ferrite and martensite.

13. (new): Steel according to claim 12, characterised in that it further comprises:

0.080% ≤	C ≤ 0.120%
0.800% ≤	Mn ≤ 0.950%
	Si ≤ 0.300%
	Cr ≤ 0.300%
0.100% ≤	Mo ≤ 0.300%
0.020% ≤	Al ≤ 0.100%

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$$P \leq 0.100\%$$

$$B \leq 0.010\%$$

$$Ti \leq 0.050\%$$

the balance being iron and impurities resulting from the production operation.

14. (new): Steel according to claim 12, characterised in that it further comprises:

$$0.080\% \leq C \leq 0.120\%$$

$$0.800\% \leq Mn \leq 0.950\%$$

$$Si \leq 0.300\%$$

$$Cr \leq 0.300\%$$

$$0.150\% \leq Mo \leq 0.350\%$$

$$0.020\% \leq Al \leq 0.100\%$$

$$P \leq 0.100\%$$

$$B \leq 0.010\%$$

$$Ti \leq 0.050\%$$

the balance being iron and impurities resulting from the production operation.

15. (new): Steel according to claim 12, characterised in that it further comprises:

$$0.100\% \leq C \leq 0.140\%$$

$$0.800\% \leq Mn \leq 0.950\%$$

$$Si \leq 0.300\%$$

$$Cr \leq 0.300\%$$

$$0.200\% \leq Mo \leq 0.400\%$$

$$0.020\% \leq Al \leq 0.100\%$$

$$P \leq 0.100\%$$

$$B \leq 0.010\%$$

$$Ti \leq 0.050\%$$

the balance being iron and impurities resulting from the production operation.

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16. (new) Very high mechanical strength sheet of steel according claim 12, characterised in that it is coated with zinc or zinc alloy.

17. (new): Method for producing a steel sheet according to claim 16, characterised in that it comprises the steps of:

- producing a slab having a chemical composition, in % by weight:

0.060% ≤	C ≤ 0.250%
0.400% ≤	Mn ≤ 0.950%
	Si ≤ 0.300%
	Cr ≤ 0.300%
0.100% ≤	Mo ≤ 0.500%
0.020% ≤	Al ≤ 0.100%
	P ≤ 0.100%
	B ≤ 0.010%
	Ti ≤ 0.050%

the balance being iron and impurities resulting from the production operation, the microstructure thereof being constituted by ferrite and martensite,

- hot-rolling then cold-rolling the slab in order to produce a sheet,
- heating the sheet at a rate of between 2 and 100°C/s until a holding temperature of between 700 and 900°C is reached,
- cooling the sheet at a rate of between 2 and 100°C/s until a temperature is reached which is close to that of a bath containing molten zinc or a zinc alloy, then
- coating the sheet with zinc or a zinc alloy by means of immersion in the bath and cooling it to ambient temperature at a cooling rate of between 2 and 100°C/s.

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18. (new): Method according to claim 17, characterised in that the sheet is kept at the holding temperature for from 10 to 1000 seconds.

19. (new): Method according to claim 17, characterised in that the bath containing molten zinc or a zinc alloy is kept at a temperature of between 450 and 480°C, and in that the immersion time of the sheet is in the order of between 2 and 400 seconds.

20. (new): Method according to claim 17, characterised in that the bath principally contains zinc.

21. (new): Use of a very high mechanical strength sheet of steel coated with zinc or zinc alloy, according to claim 16, in the production of automotive components.